

● FIG. 1a

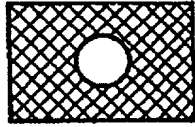


FIG. 1b



FIG. 1c

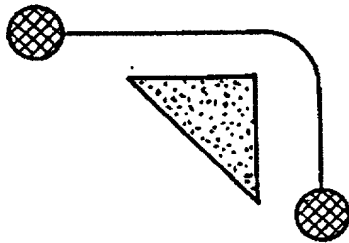


FIG. 1d

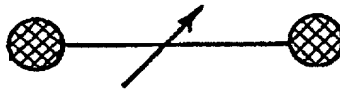


FIG. 1e

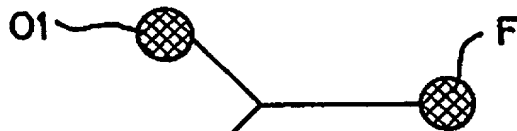


FIG. 1f

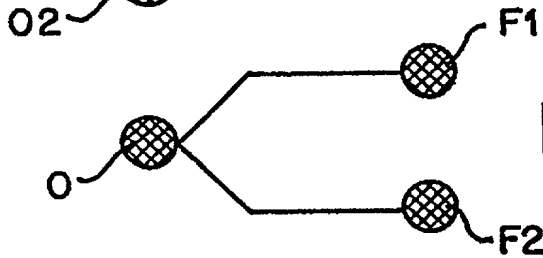


FIG. 1g

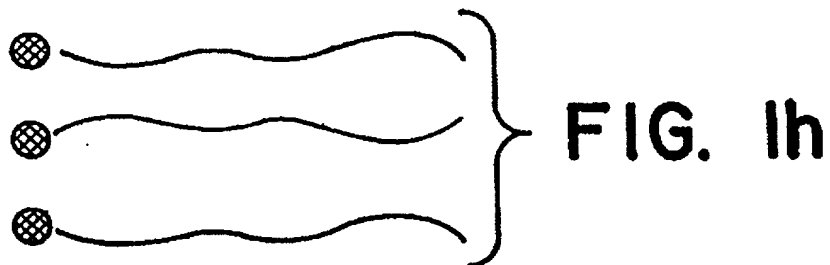


FIG. 1h

FIG. 2A

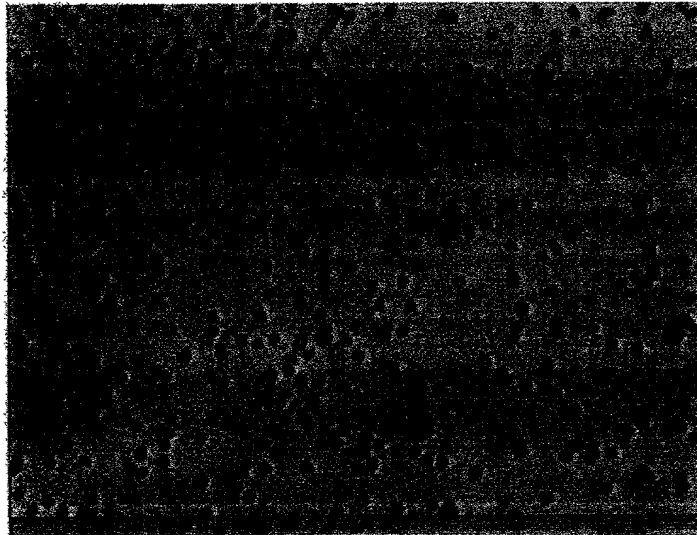
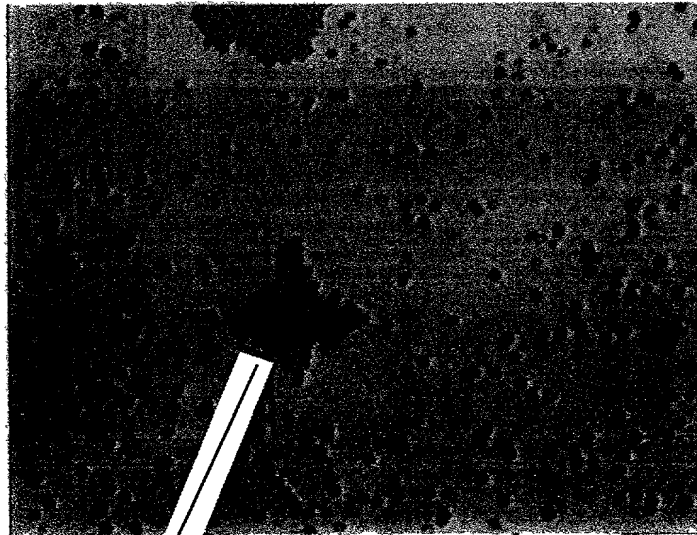


FIG. 2B



22

FIG. 2C

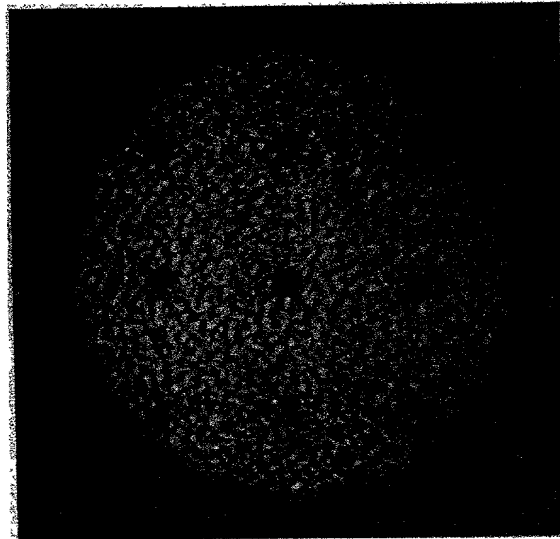


FIG. 2D

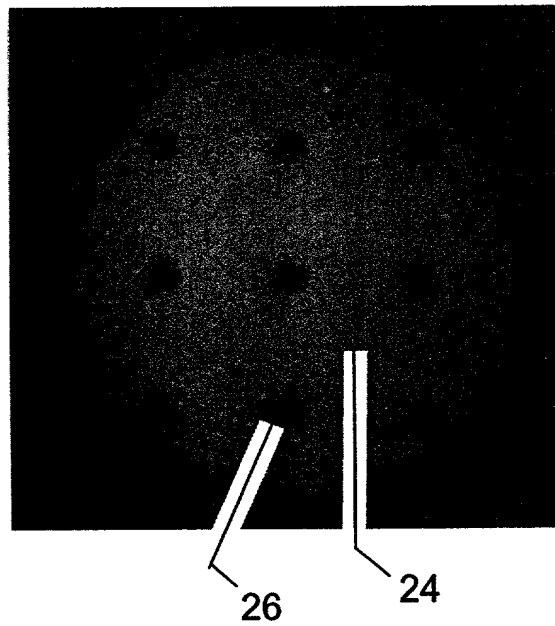


FIG. 3a

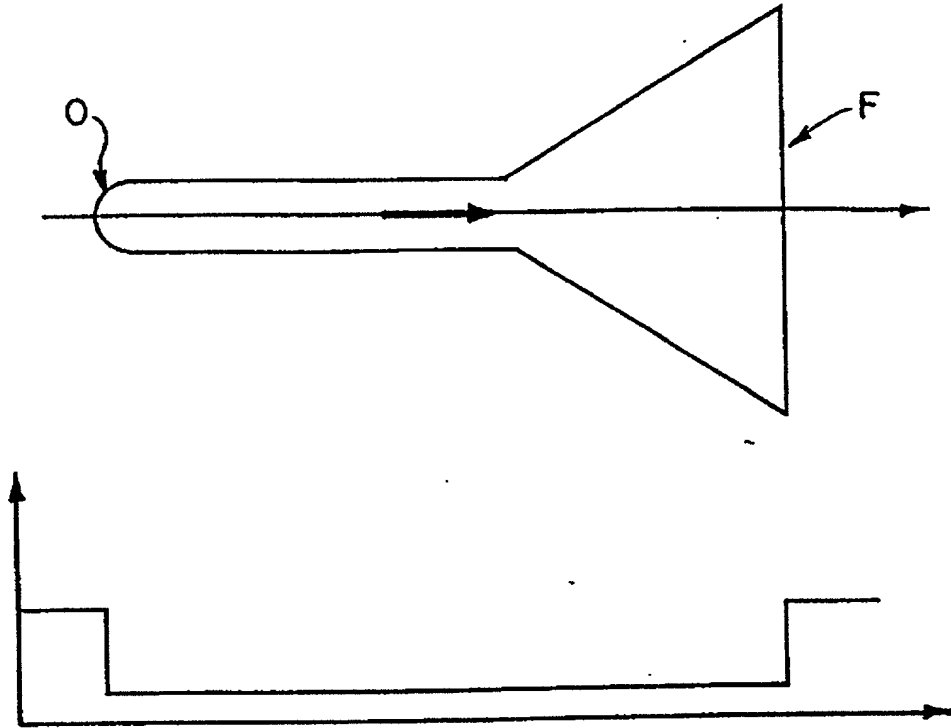


FIG. 3b

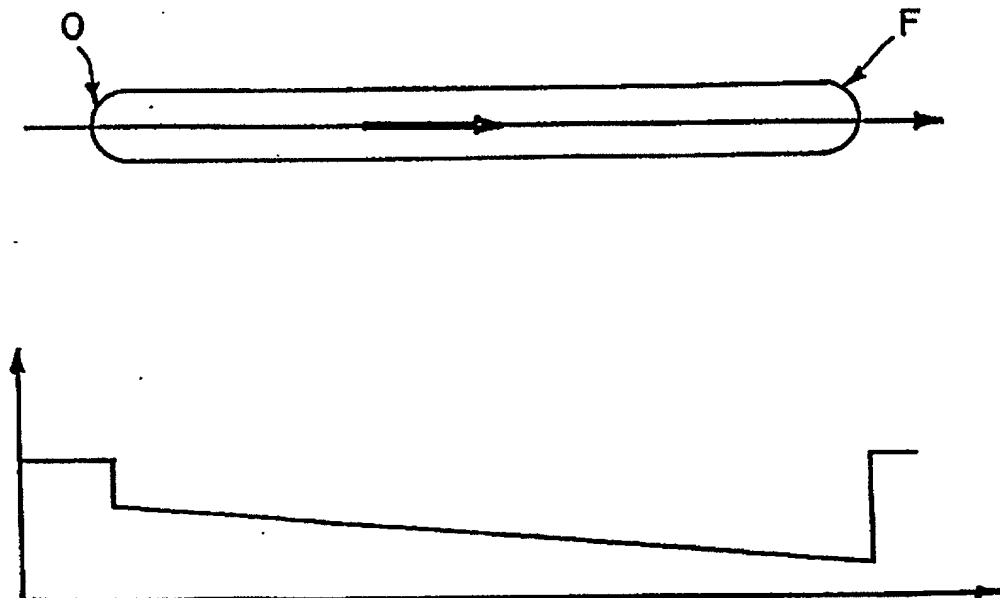


FIG. 3C



FIG. 3D



FIG. 4A

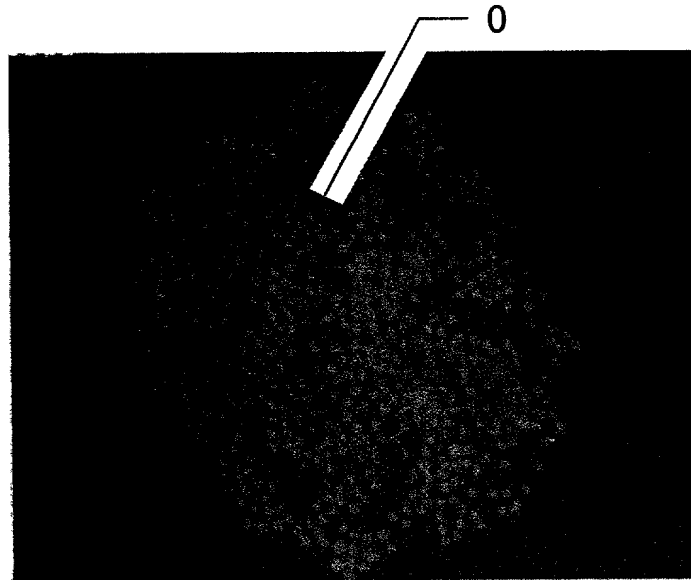


FIG. 4B

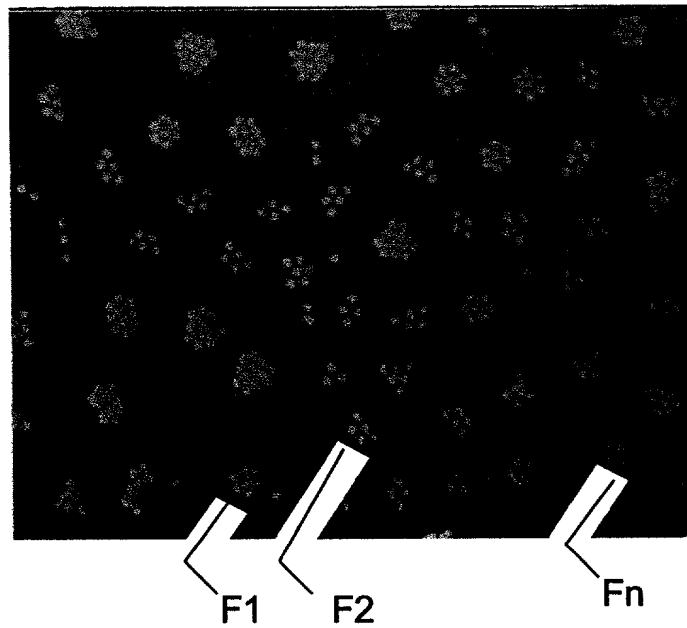


FIG. 5

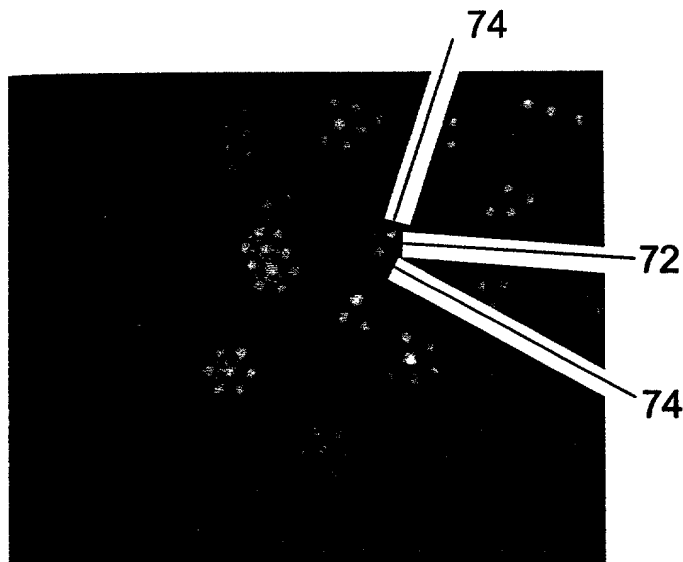
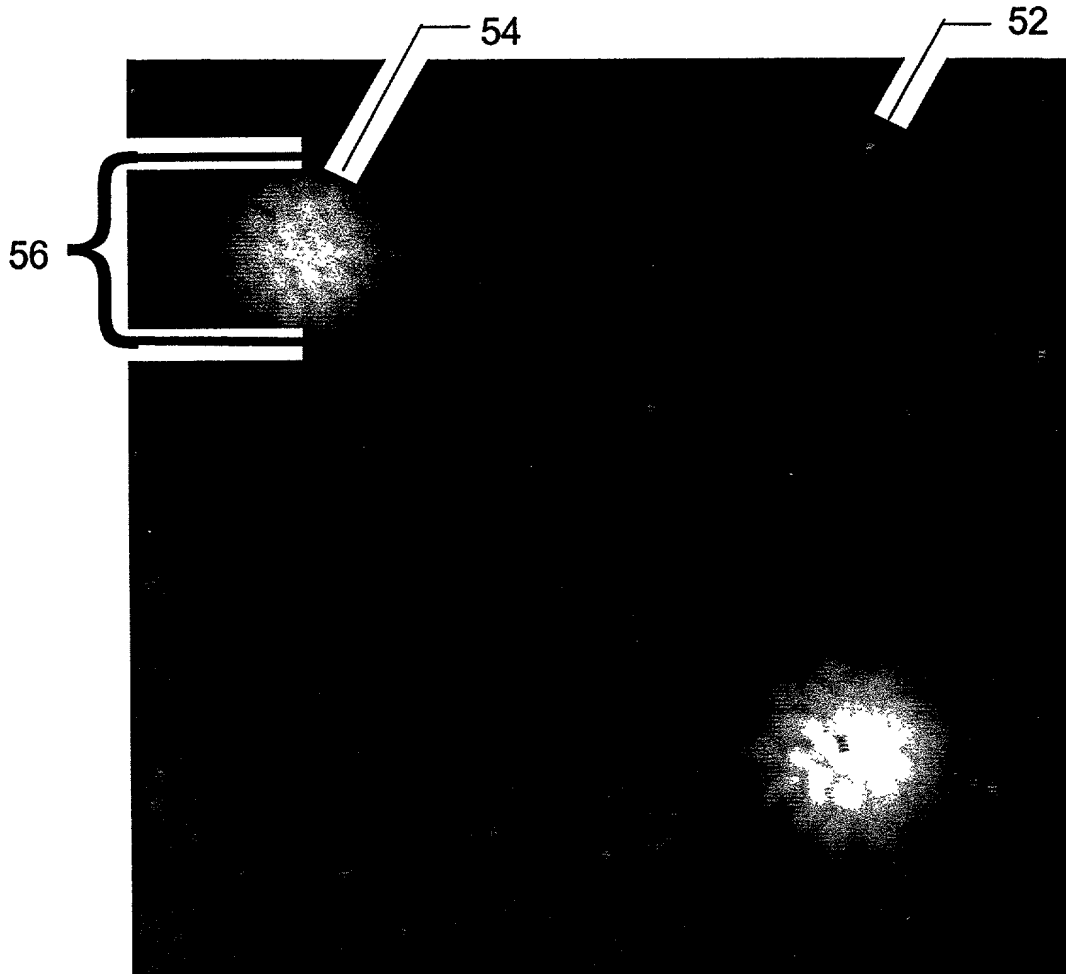


FIG. 7

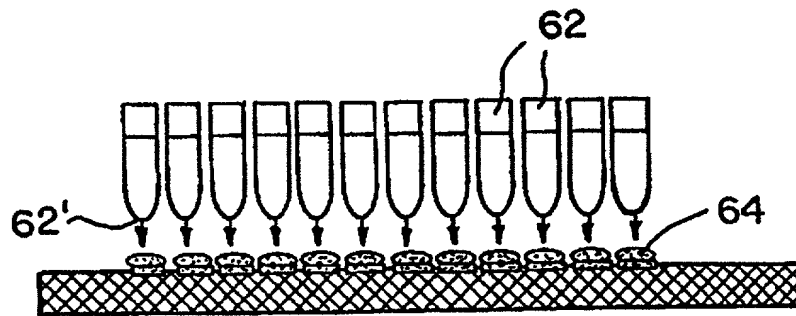
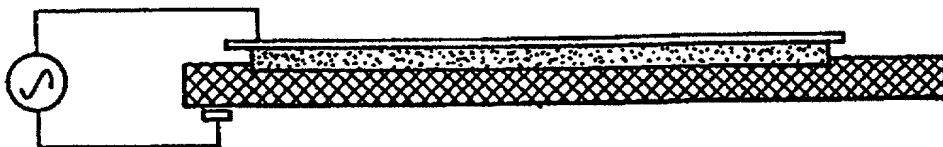
**FIG. 6a****FIG. 6b****FIG. 6c**



FIG. 8

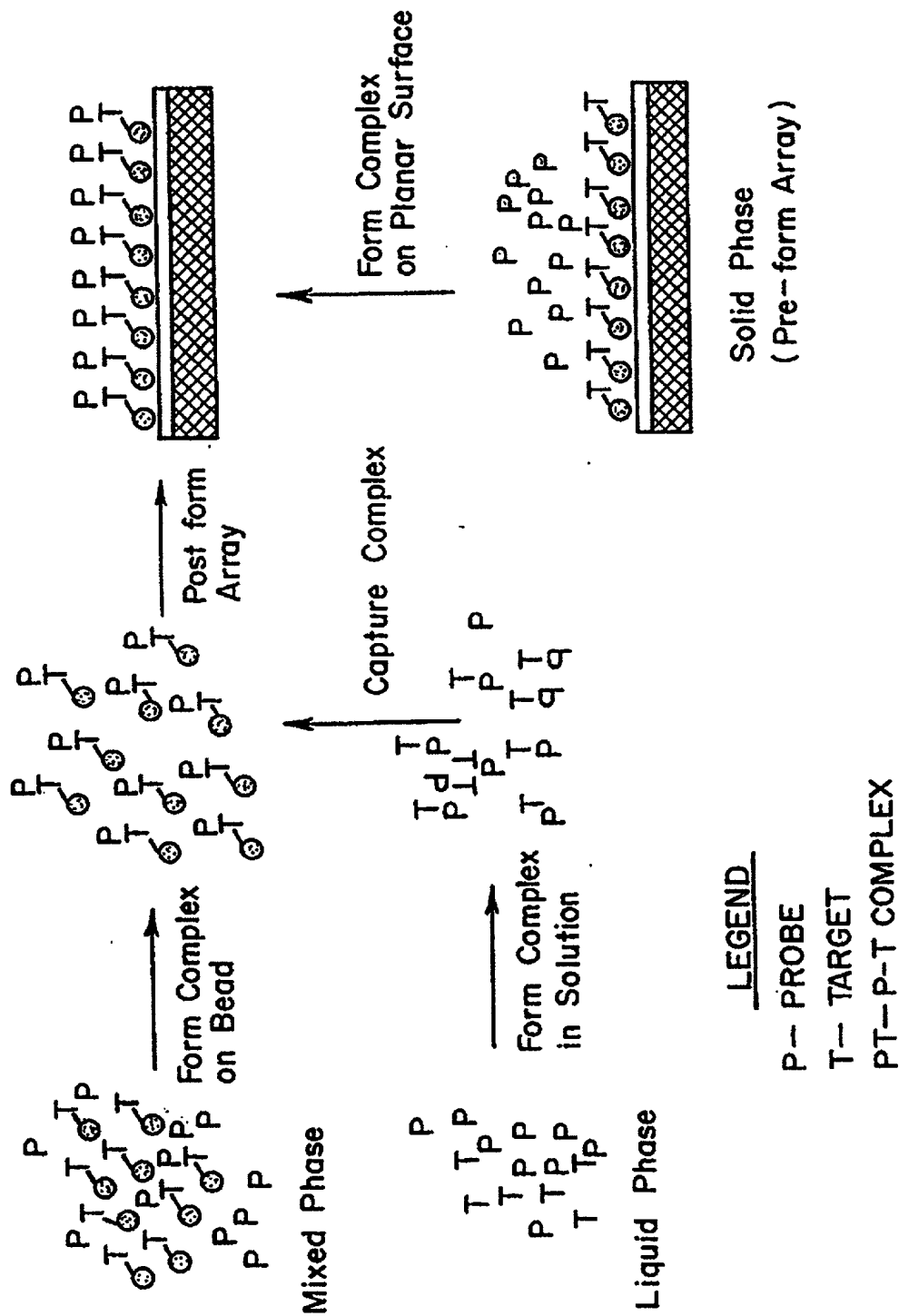


FIG. 9a

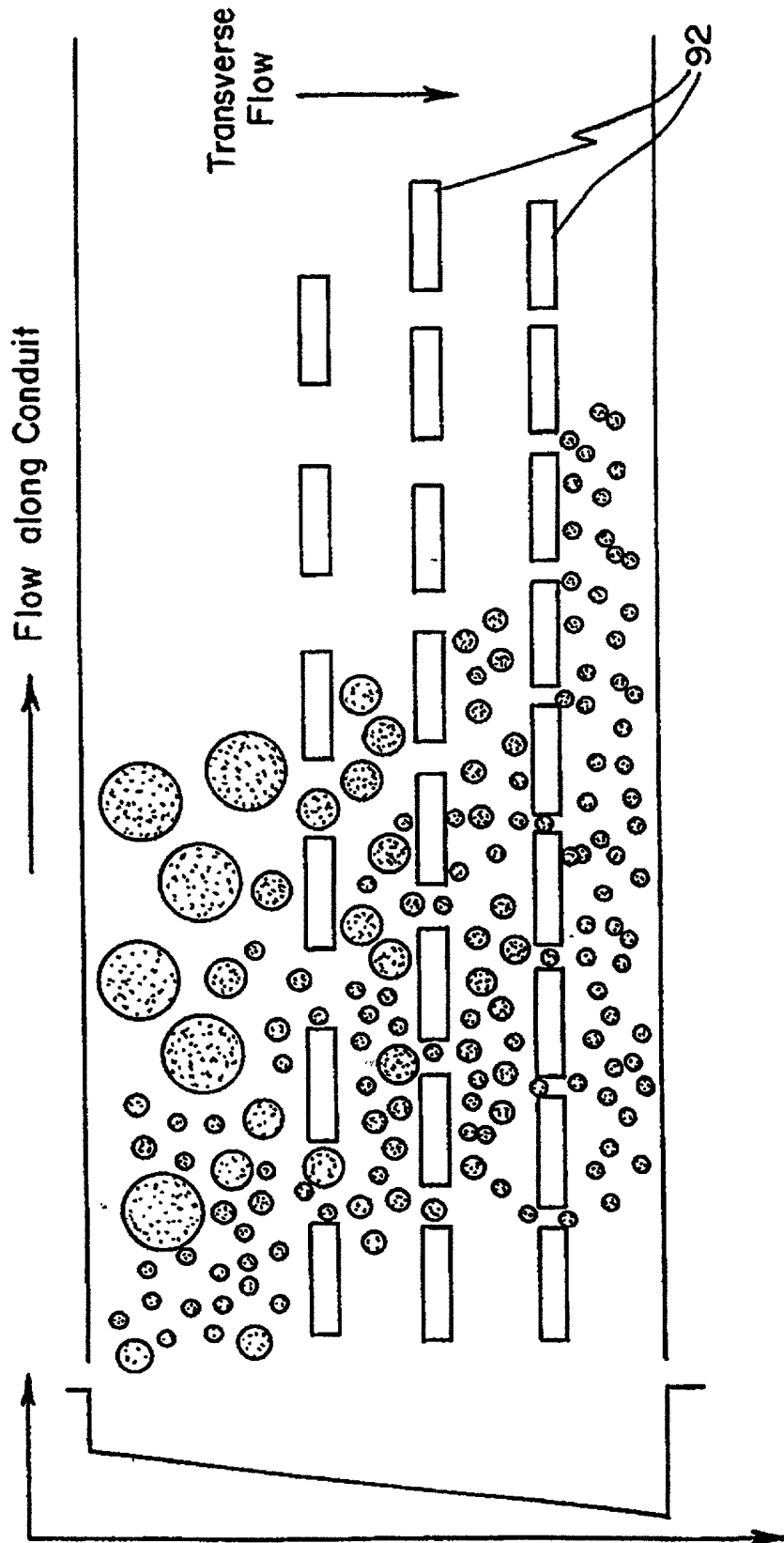


FIG. 9b

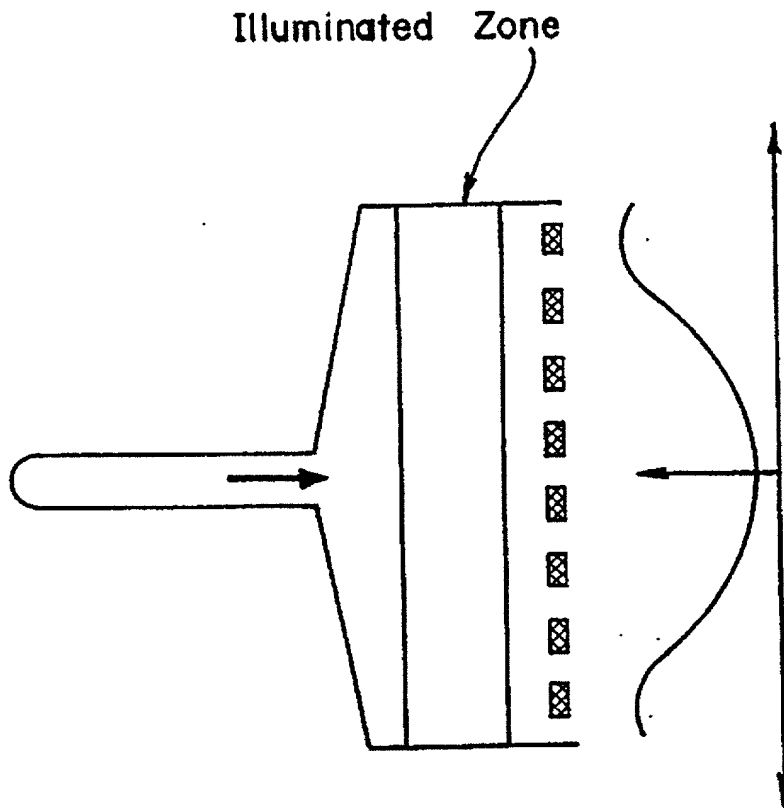


FIG. 9c



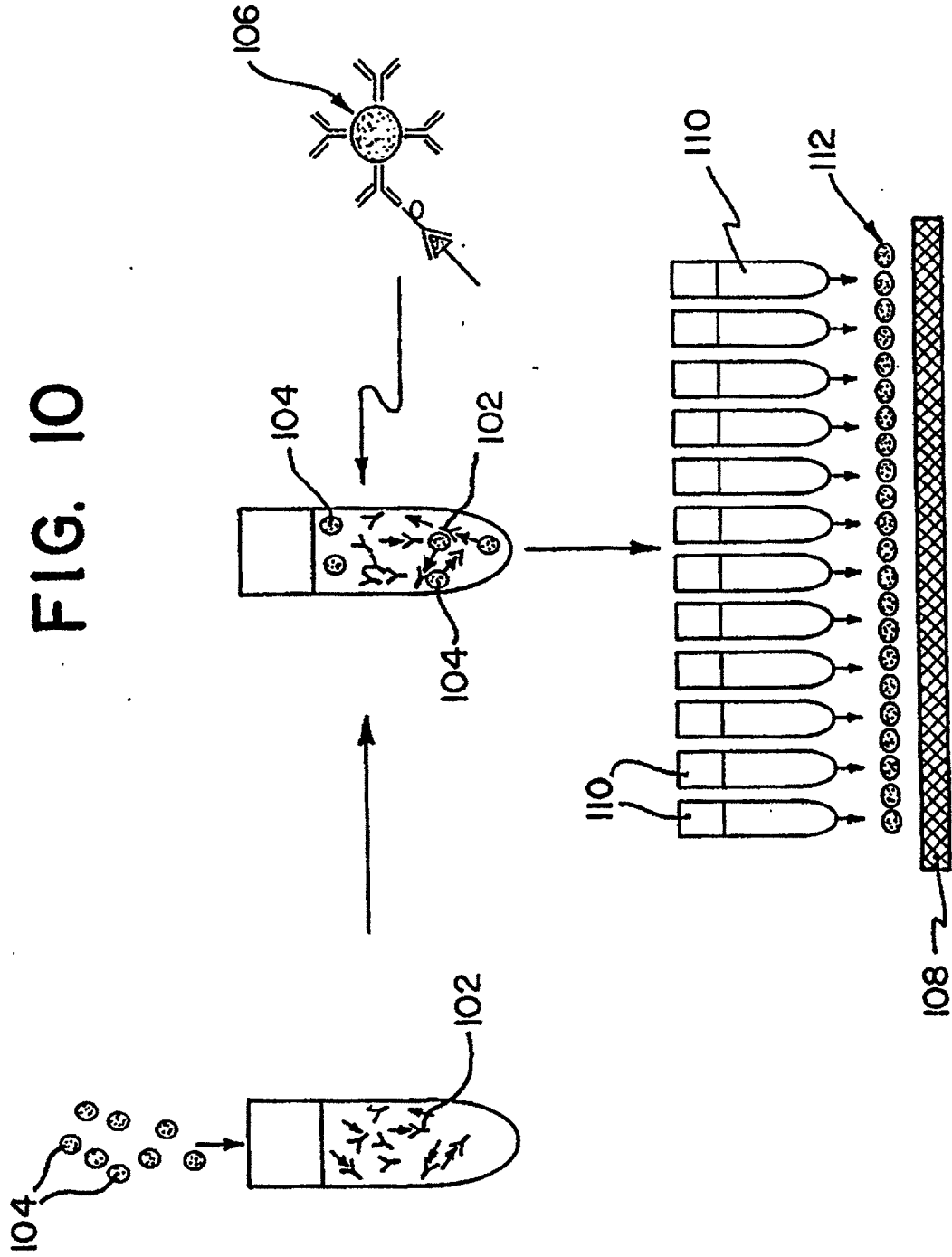


FIG. 11a

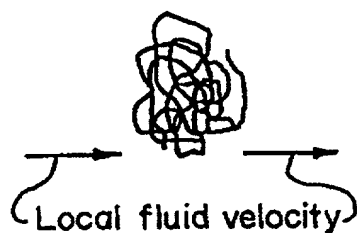


FIG. 11b

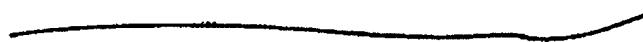


FIG. 11c

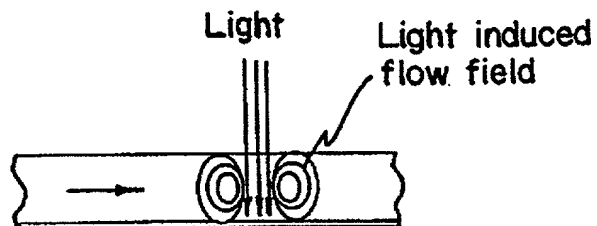


FIG. 11d

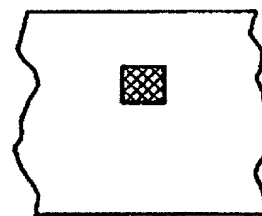
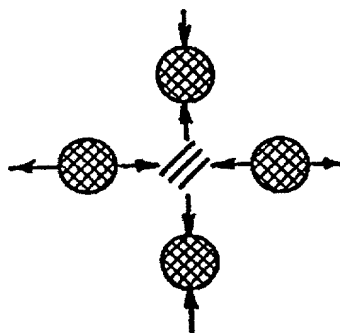


FIG. 11e



# ILLUMINATION PATTERN GENERATOR

---

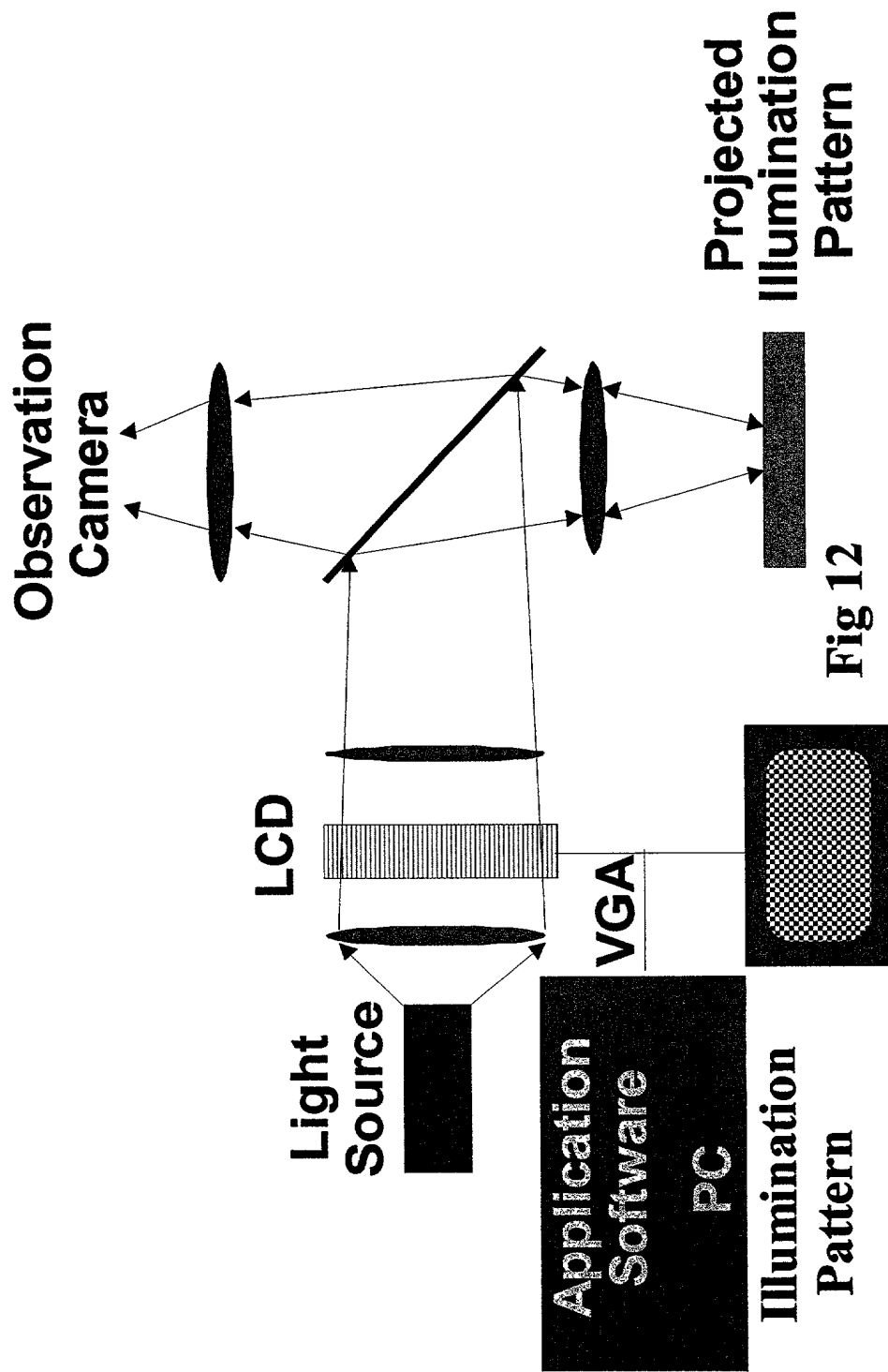
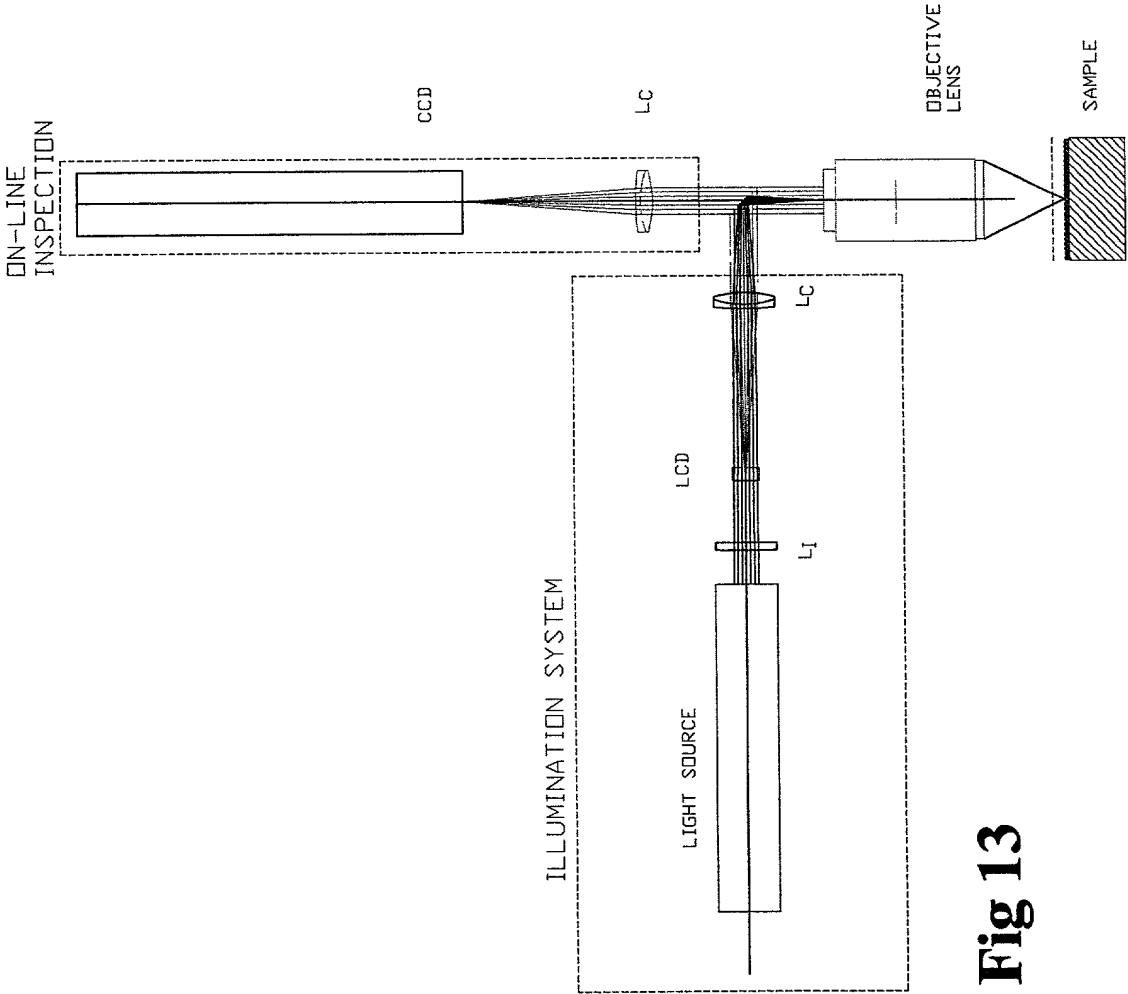


Fig 12

# LCD-PARSE OPTICAL DESIGN



**Fig 13**

# ARRAY SHAPE ADJUSTMENTS

---

CIRCLE

HORIZONTAL. LINE

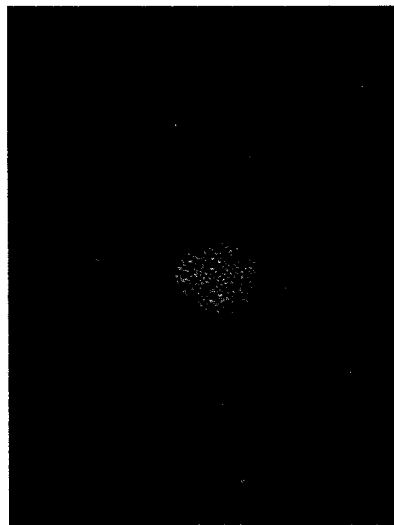


Figure 14a



Figure 14c



Figure 14b



Figure 14d

VERTICAL LINE

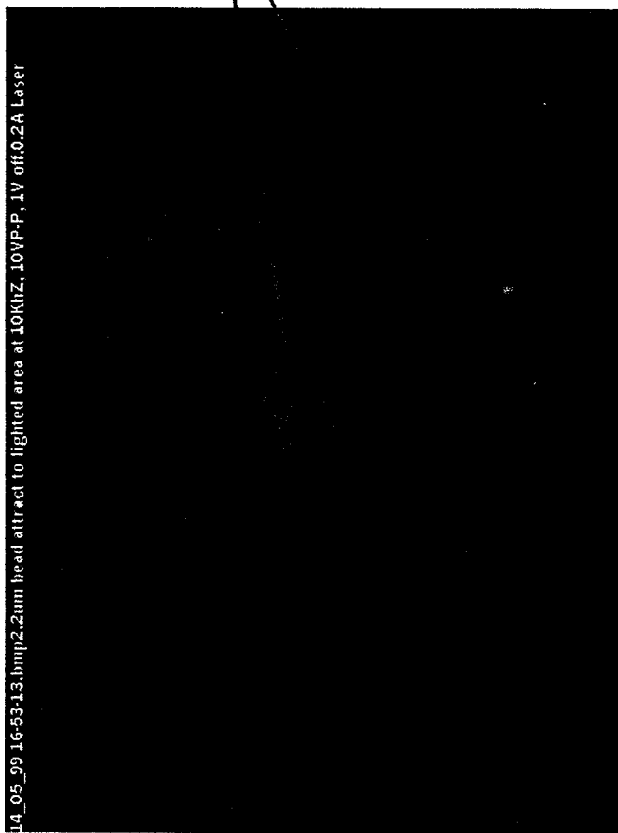
SQUARE



# COLLECTION AND ARRAY ASSEMBLY

---

14\_05\_99 16:53:13.bmp 2.2mm head attract to lighted area at 10KHz, 10VP-P, 1V off, 0.2A Laser



CollectedParticles

Figure 15a

# EXPULSION AND CONFINEMENT

---

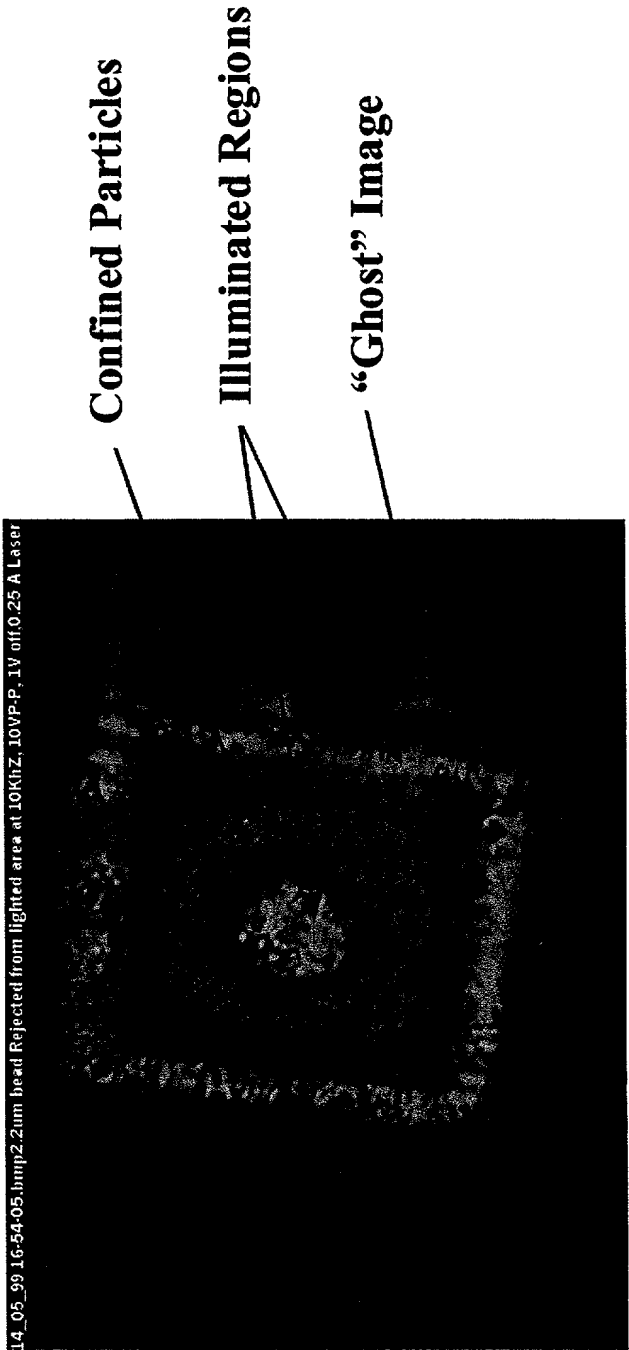


Figure 15b

# DRAG AND DROP

---

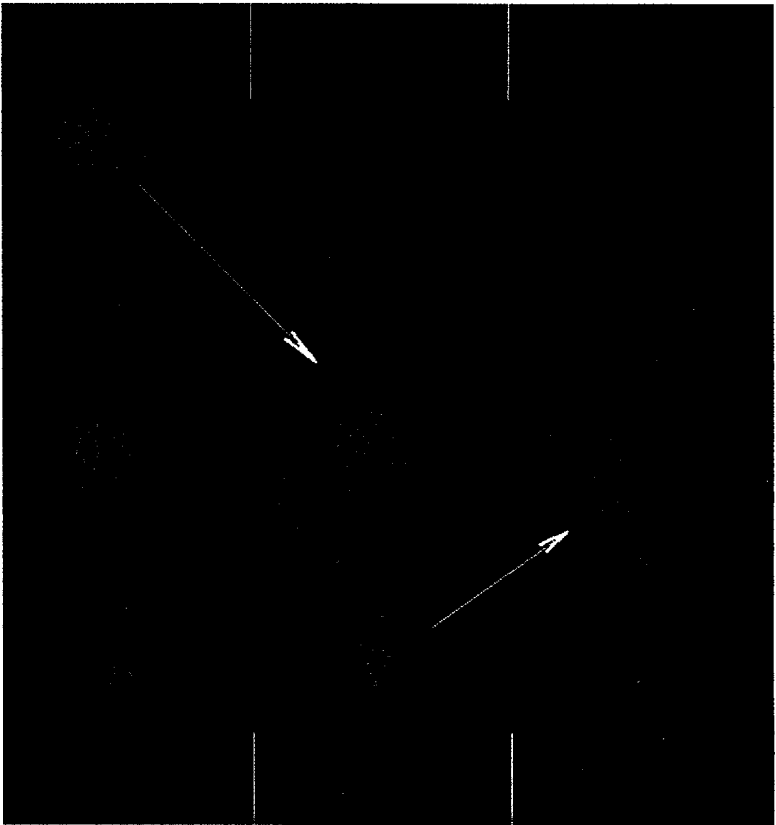


Figure 16

## Programmable Array Reconfiguration and Segmentation

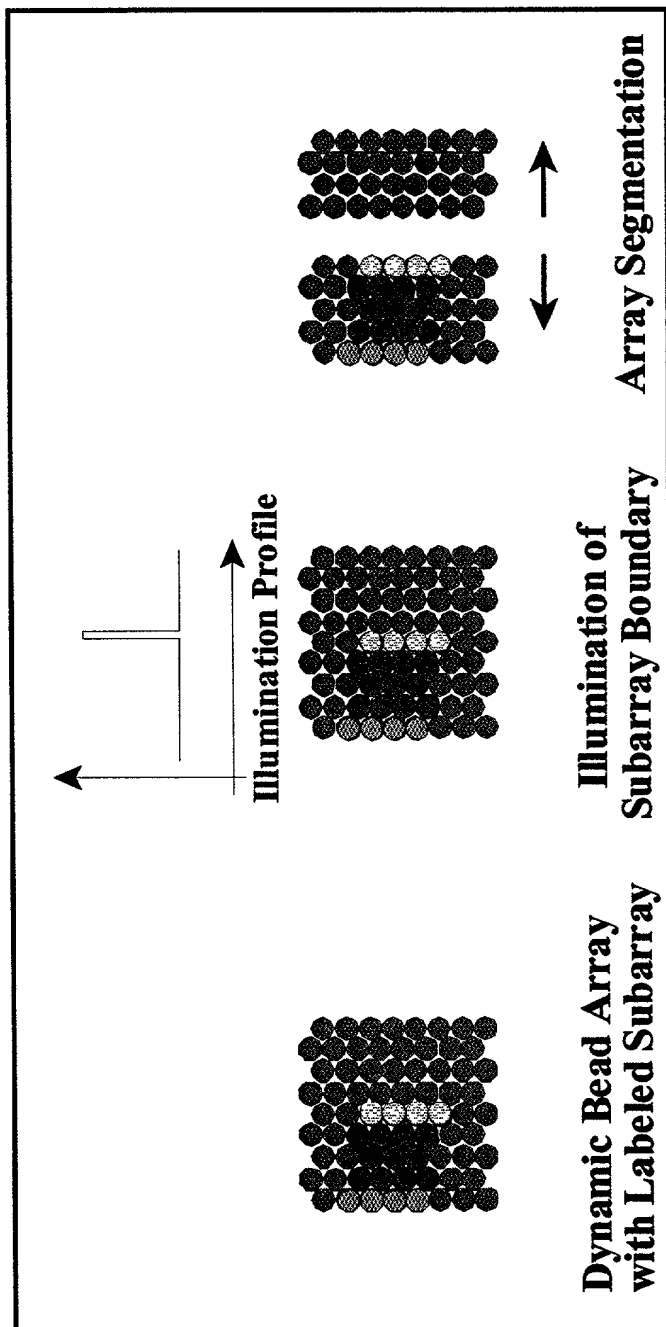


Figure 17

# LCD PARSE

---

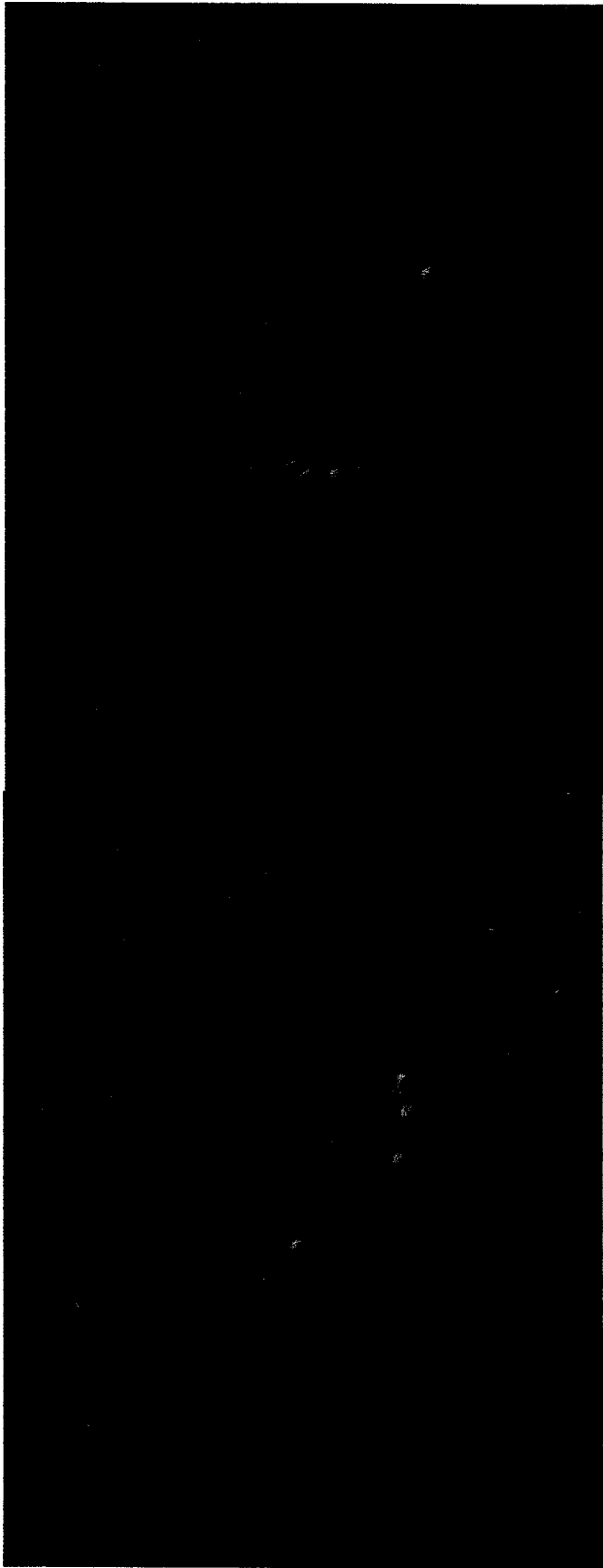


Figure 18a

Figure 18b

# LCD PARSE

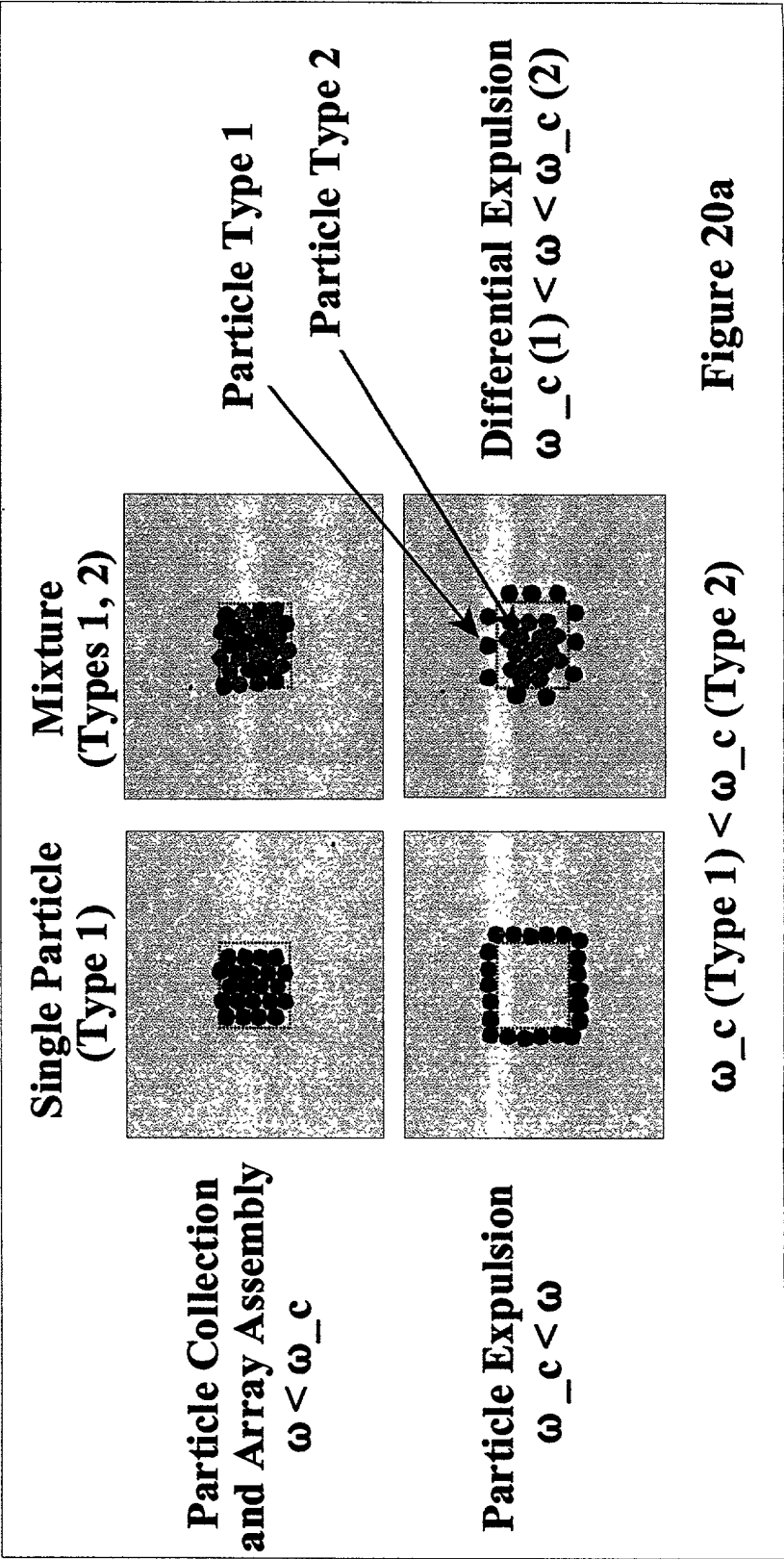
---



**Figure 19**

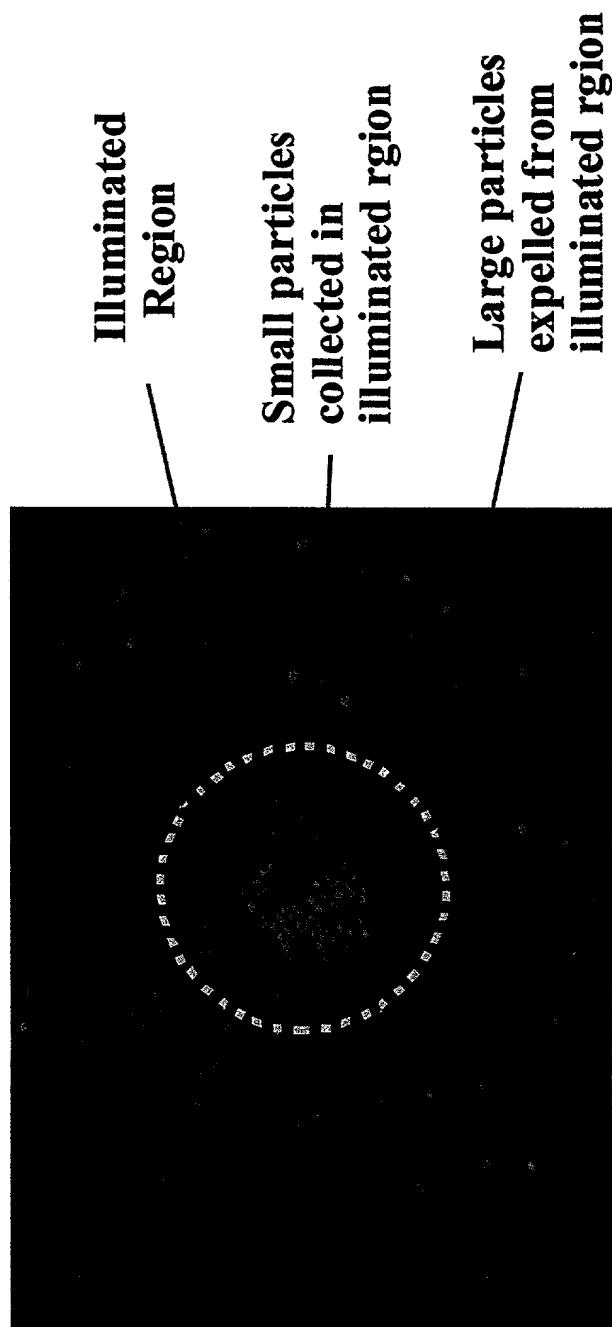
# FRACTIONATION

Differential Frequency Dependence of Particle Expulsion  
(NOTE:  $\omega_c$  denotes a characteristic frequency)



# FRACTIONATION

---

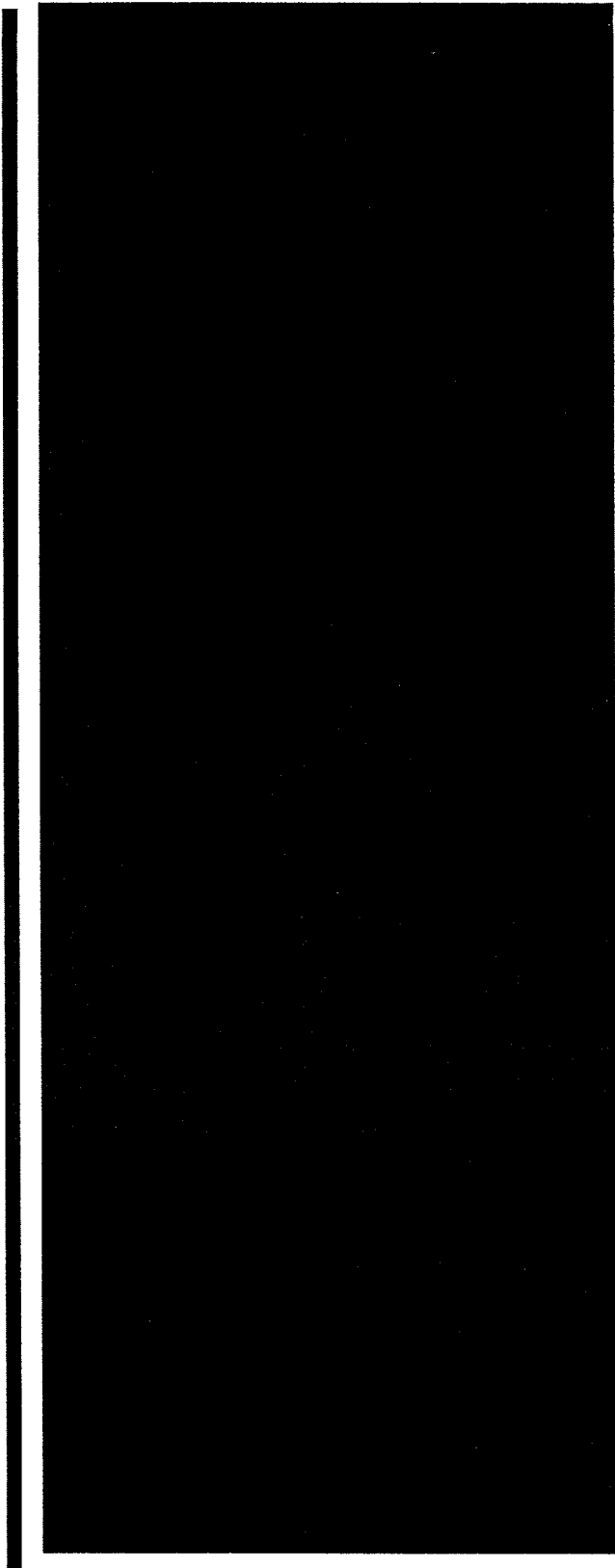


**Figure 20b**



TO THE COURT

LCD PARSONS



**Figure 21b**

**Figure 21a**

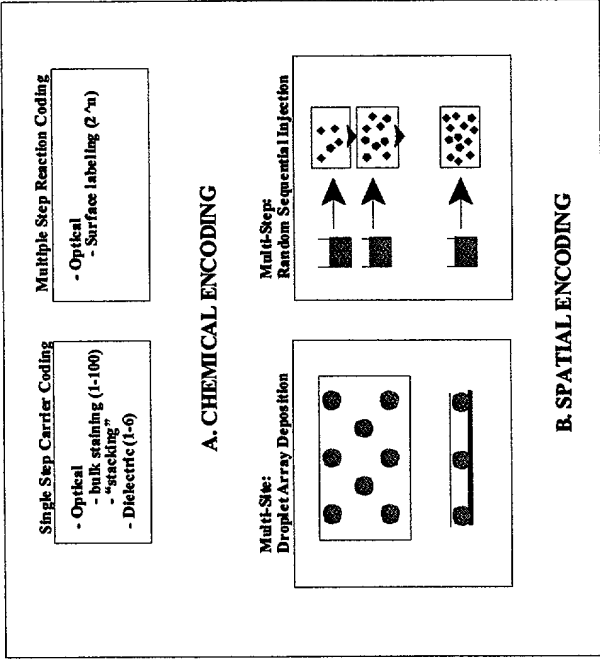


Figure 22a

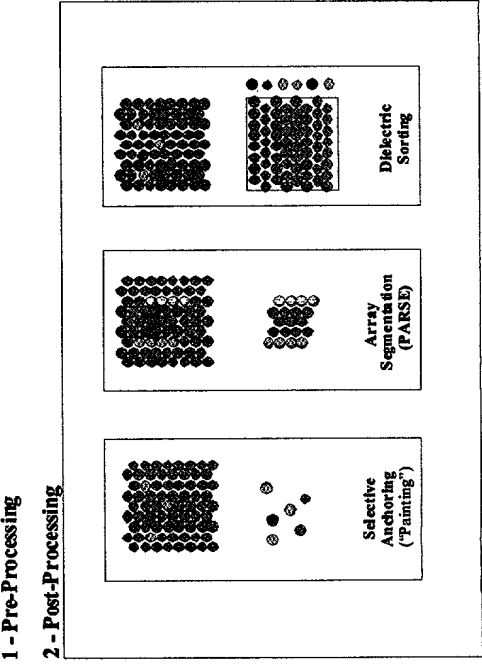


Figure 22b

# RANDOM SEQUENTIAL INJECTION

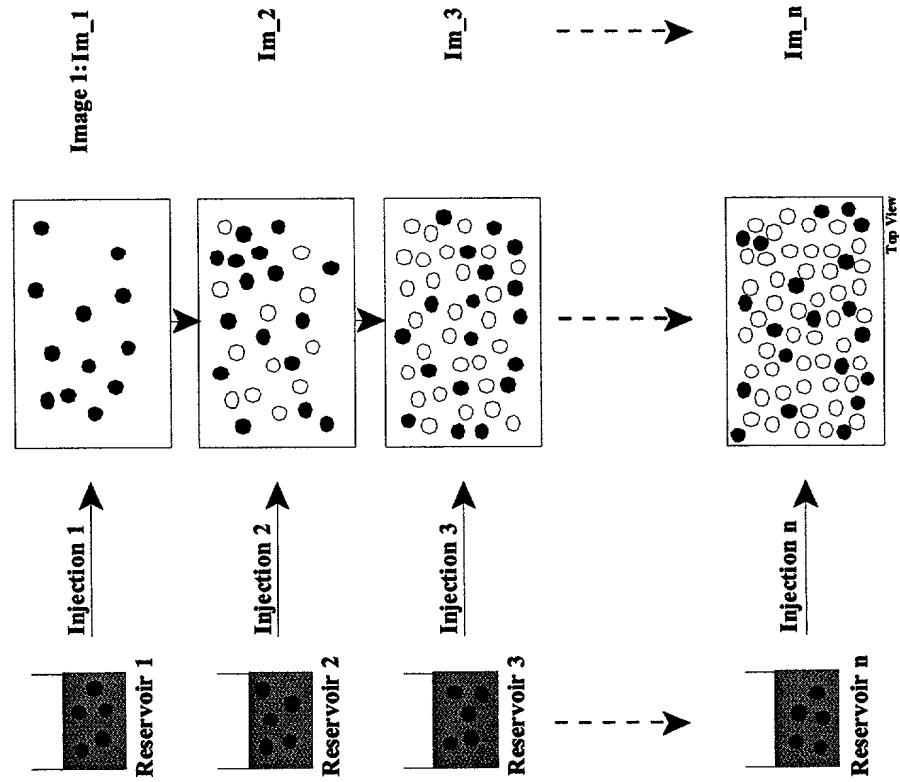


Figure 23

# SEQUENTIAL INJECTION & LIGHT-CONTROLLED ARRAY PLACEMENT

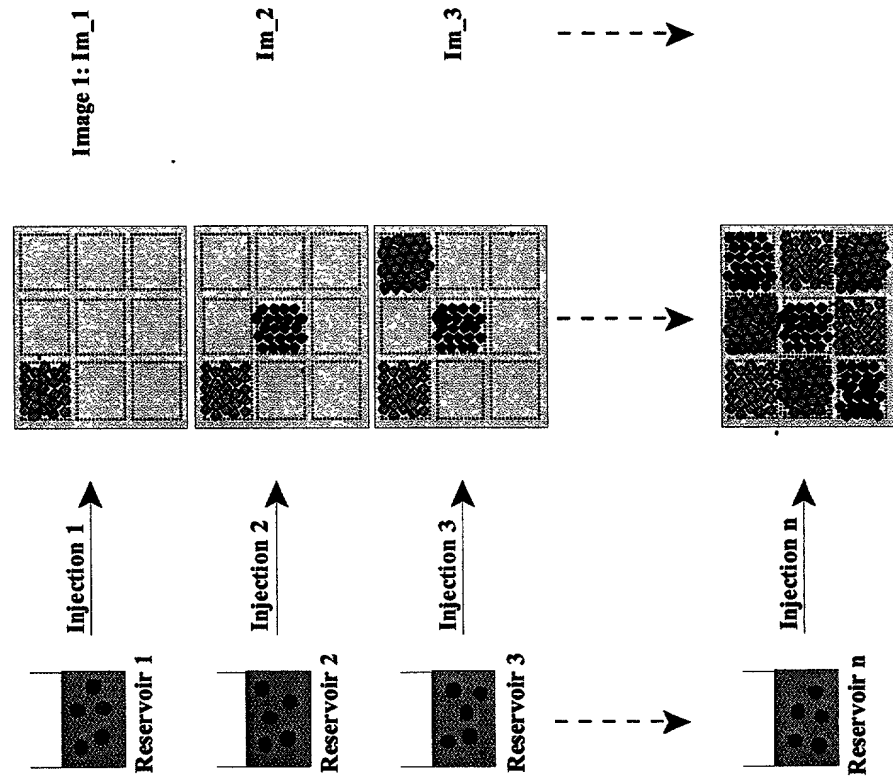


Figure 24

# MACRO-TO-MICRO TRANSITION

---

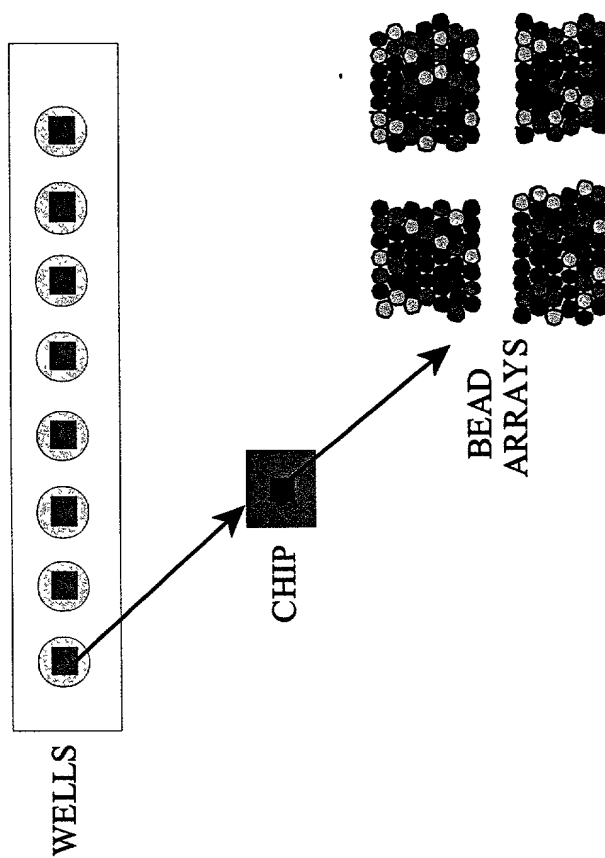
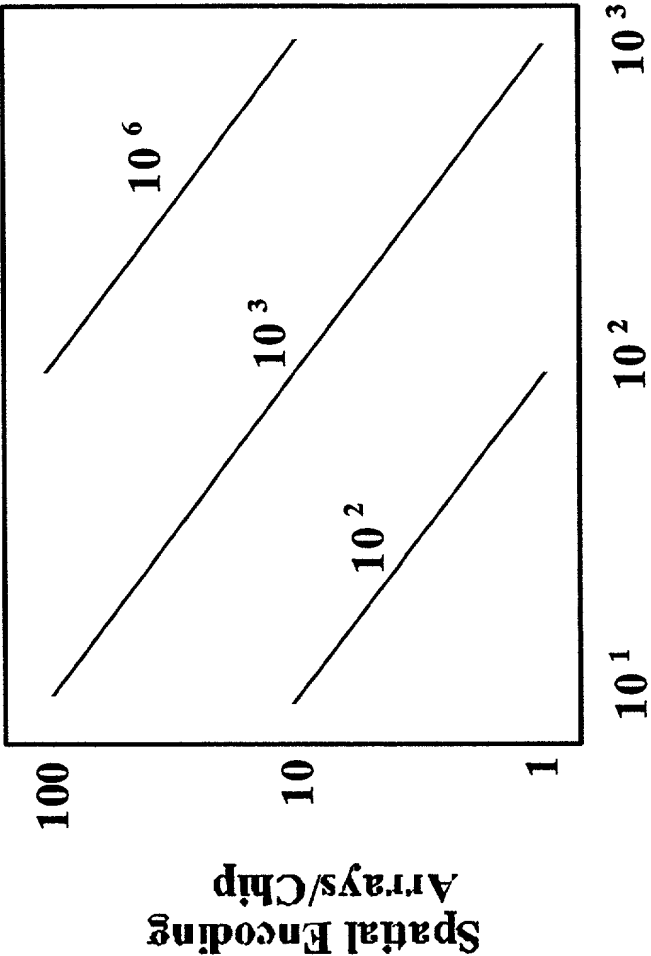


Figure 25a

# ARRAY ENCODING

Lines of Constant Array Complexity



Chemical Encoding Codes/Array

Figure 25b

# ARRAY ENCODING

---

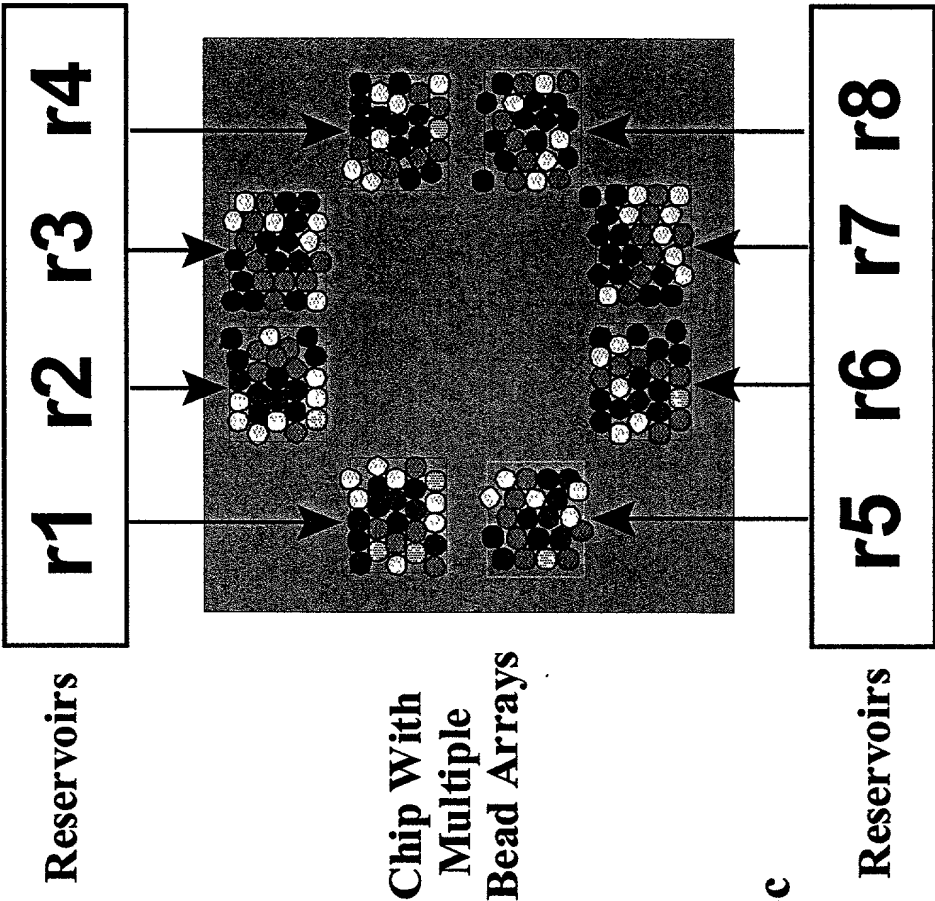
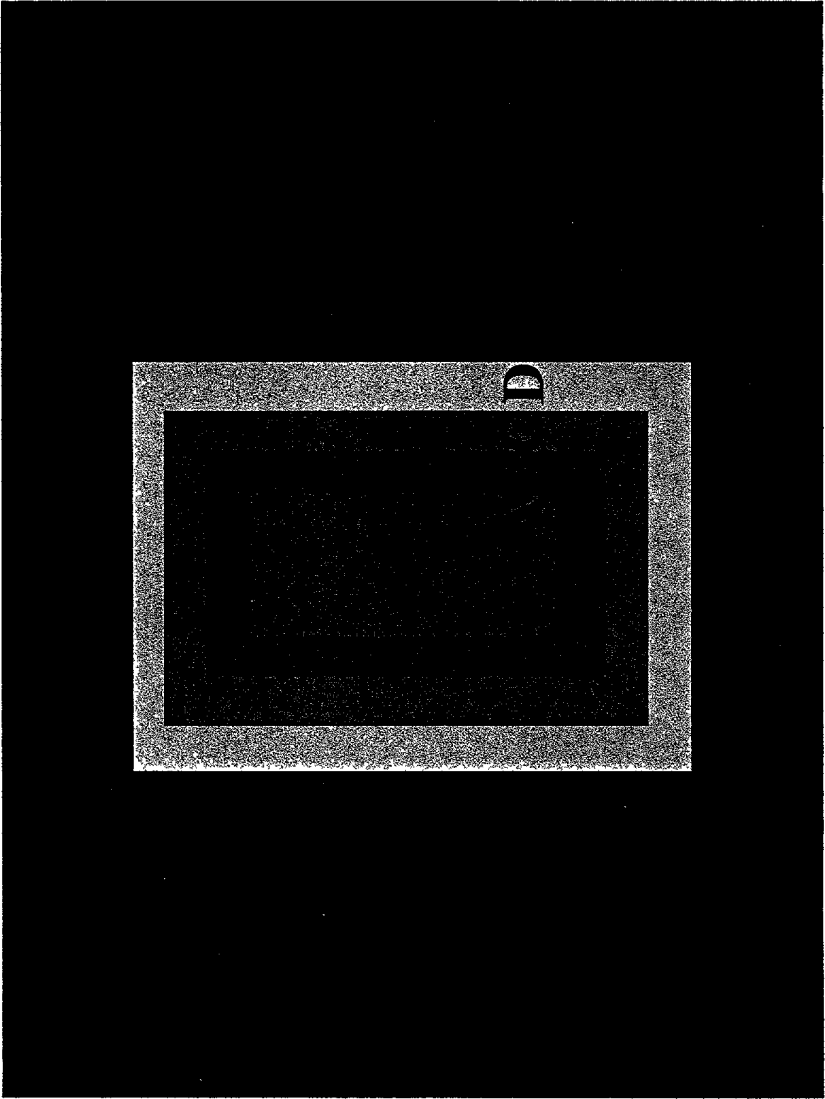


Figure 25c

# SEQUENTIAL ASSEMBLY: "BANDING"

---



**Figure 26a**



# SEQUENTIAL ASSEMBLY: “BANDING”

---

Mixture of Two Particle Types

Brightfield Image

Darkfield Image

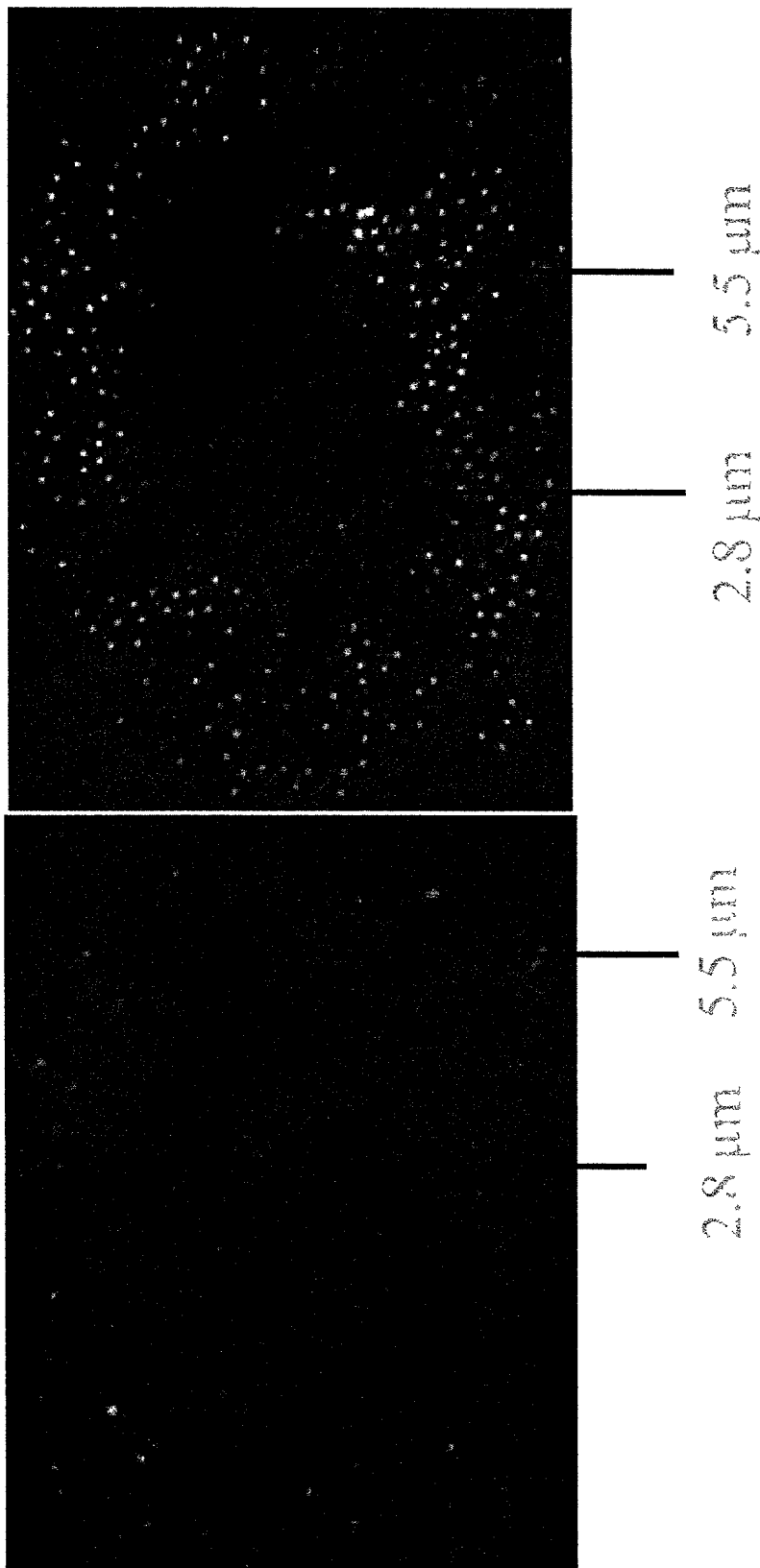


Figure 26b

## LCD PARSE

---

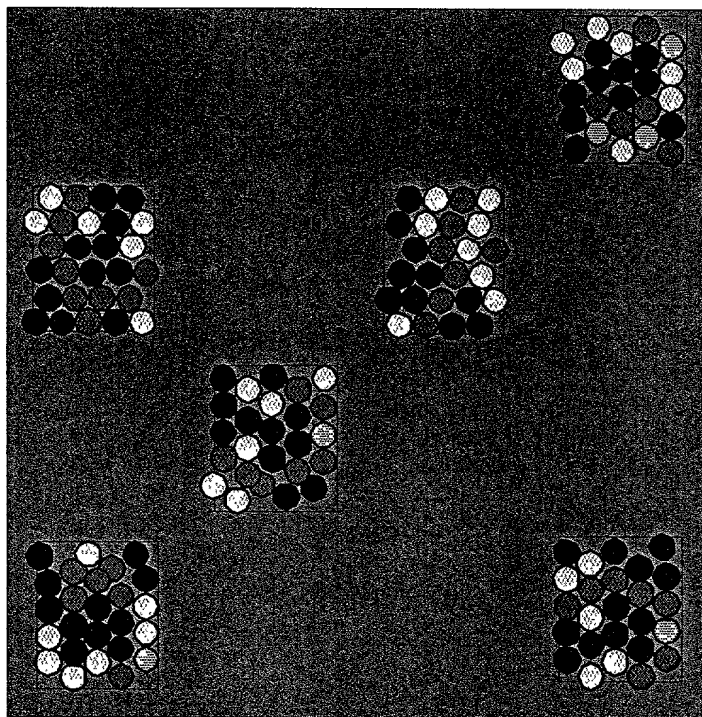


**Figure 27**

# ARRAY OF RANDOM SUBARRAYS

---

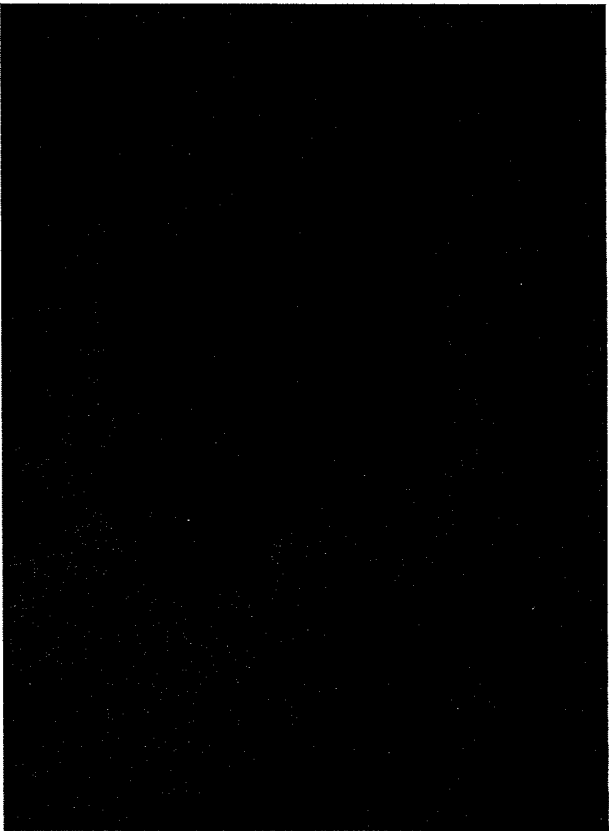
A UNIQUE TWO-DIMENSIONAL BAR CODE



**Figure 28**

# LIGHT-INDUCED FLUID FLOW

---



**Figure 29**